

Application No. 10/517,011
Filed: July 7, 2005
TC Art Unit: 1731
Confirmation No.: 2774

AMENDMENT TO THE SPECIFICATION

On page 10 of the Specification please replace the paragraph beginning at line 20 with the following amended paragraph:

The characteristic feature of the present invention is that a dispersion comprising fine water-soluble polymer particles is produced by subjecting a monomer or monomers to polymerization with stirring in the presence of polyethylenimine and/or a modification of polyethylenimine, which is useful as an auxiliary agent in papermaking, if necessary in the presence of a necessary amount of an inorganic salt.

On page 18 of the Specification please replace the paragraph beginning at line 2 with the following amended paragraph

Thus, since size particles are colloidal particles, they can hardly be fixed by means of a polymer with a high degree of polymerization. In this respect, the polyalkylenimine and/or modified polyalkylenimine is low in degree of polymerization and high in cation equivalent value, hence is suited for the fixation of such fine colloidal particles. Further, the coexisting water-soluble polymer causes flocculation of pulp together with size particles fixed on pulp fibers and thus improves the yield on the wire cloth. The sizing agent coexisting in paper-making raw material includes rosin sizing agent for acidic or neutral papermaking, alkyl ketene dimers and alkenylsuccinic anhydrides, among others. As for the sites of addition, a site before the machine chest or fan pump is suitable. The addition level is 0.005 to 0.3%, preferably 0.01 to 0.2%, on the mass basis relative to dry paper-making raw material.

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Please replace the Abstract appearing at page 50 of the Specification with an amended Abstract having amendments as appear below, which amended Abstract with tracked changes removed appears on the following page:

ABSTRACT (as amended with tracked changes)

A water-soluble polymer dispersion, process for producing the same and a method of use therefor. In particular, the water-soluble polymer dispersion is one comprising water-soluble polymer fine particles of 100 µm or less diameter having at least one ionic property selected from among cationic, amphoteric, nonionic and anionic properties together with a polyalkyleneimine and/or a product of polyalkyleneimine modification wherein according to necessity an appropriate amount of water-soluble inorganic salt is incorporated. The provided process enables easily performing the production in dispersed form by means of production facilities of low cost. The obtained water-soluble polymer dispersion is excellent in storage stability and exhibits satisfactory fluidity and solubility so as to enable use in papermaking raw material pretreatments added to papermaking raw materials prior to machine operation and also for enhancement of freeness, increase of sizing degree and enhancement of yield. Further use can be found in incorporation in an organic sludge or paper mill sludge for flocculation and ensuing drainage.